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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,938	08/21/2003	Hideki Sugiura	241828US0	7365

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EXAMINER

NOTE, JANIS L

ART UNIT PAPER NUMBER

1756

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/644,938

Applicant(s)

SUGIURA ET AL.

Examiner

Janis L. Dote

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/22/03; 10/8/04; 12/8/04; 4/26/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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1. The examiner acknowledges the cancellation of claims 7 and 8, the amendments to claims 1, 3, 5, 9-11, and 15-19, and the addition of claims 20-22 set forth in the amendment filed on Jul. 13, 2005. Claims 1-6 and 9-22 are pending.

2. The "Amendment to the claims" section filed on Feb. 14, 2005, did not comply with 37 CFR 1.121 for the reasons discussed in the "Notice of Non-compliant Amendment" mailed on Jul. 5, 2005. Accordingly, that "Amendment to the claims" section has not been entered.

The supplemental reply filed on Apr. 6, 2005, has not been entered because it was not signed. See the office communication mailed on Jul. 5, 2005.

The "Amendment to the specification" section filed on Jul. 13, 2005, is a duplicate of the "Amendment to the specification" section filed on Feb. 14, 2005, which has been entered. Accordingly, the "Amendment to the specification" section filed on Jul. 13, 2005, has not been entered.

3. The examiner notes that applicants' comments set forth in the response filed Jul. 13, 2005, are duplicates of those set forth in the response filed on Feb. 14, 2005. Accordingly, in

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response to applicants' comments, the examiner will reference those comments set forth in the response filed on Feb. 14, 2005.

4. The US patents listed on the "List of related cases" in the Information Disclosure Statement (IDS) filed on Dec. 22, 2003, have been crossed out by the examiner because they are already listed on the form PTO-1449 filed on Dec. 22, 2003.

The examiner has also deleted the US application 09/845,449 listed on the "List of related cases" filed in the IDS filed on Dec. 22, 2003, because applicants did not provide copies of the portions of the US application which caused it to be listed as requested in the office action mailed Sep. 9, 2004, paragraph 1. The copies of the portions of the US applications filed by applicants on Oct. 8, 2004, did not include copies of the US application 09/845,449.

The examiner has considered only the material submitted by applicants on Oct. 8, 2004, i.e., copies of the originally filed claims, abstracts, and drawings of the US applications listed on "List of related cases" in the Information Disclosure statement filed on Dec. 22, 2003.

The examiner has considered the US applications listed on "List of related cases" in the Information Disclosure statements filed on Dec. 8, 2004, and Apr. 26, 2005.

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5. The replacement drawing sheet of Fig. 6 filed on Feb. 14, 2005, is acceptable.

6. The objection to the drawings set forth in the office action mailed on Sep. 9, 2004, paragraph 2, has been withdrawn in response to the replacement drawing sheet of Fig. 6 filed on Feb. 14, 2005.

The objection to the specification set forth in the office action mailed on Sep. 9, 2004, paragraph 3, item (2), has been withdrawn in response to the amended paragraph beginning at page 22, line 14, of the specification, filed on Feb. 14, 2005, and applicants' comments in the response filed on Feb. 14, 2005, page 15, lines 19-23.

The objection to the specification set forth in the office action mailed on Sep. 9, 2004, paragraph 4, has been withdrawn in response to the amendments to claims 1 and 15-19 set forth in the amendment filed on Jul. 13, 2005.

The rejections of claims 11, 16, and 19 under 35 U.S.C. 112, second paragraph, set forth in the office action mailed on Sep. 9, 2004, paragraph 7, have been withdrawn in response to the amendments to claims 11, 16, and 19 set forth in the amendment filed on Jul. 13, 2005.

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The rejection of claim 13 under 35 U.S.C. 112, second paragraph, set forth in the supplemental office action mailed on Oct. 14, 2004, paragraph 4, has been withdrawn in response to the amendment to claims 13 set forth in the amendment filed on Jul. 13, 2005.

The rejections of claims 5 and 6 under 35 U.S.C. 102(b) over US 5,624,779 (Nakayama), of claims 1-4, 11, 15, 17, and 18 under 35 U.S.C. 102(b)/103(a) over Nakayama, and of claims 12-14 and 16-19 under 35 U.S.C. 103(a) over Nakayama combined with the other cited references, set forth in the office action mailed on Sep. 9, 2004, paragraphs 12-17, have been withdrawn in response to the amendments to independent claims 1 and 15-19, adding the limitation that the toner comprises a polyester resin containing nitrogen and that "a concentration of nitrogen at the surface [of the toner] being more than a concentration of nitrogen in the entire toner." As discussed in paragraph 12, Nakayama discloses toner particles comprising a polyester resin, wherein the crosslinking density of the polyester gradually increases from the center towards the surface of the toner particles. The polyester resin has an unsaturated double bond that reacts with a reactive monomer to form a cross-linked structure. In other words, the cross-linking density of the polyester resin at the surface is higher than the polyester resin at the center of the

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toner particles. Nakamura does not teach or suggest that the polyester resin comprises nitrogen such that the toner particles have a nitrogen concentration as recited in the instant claims.

7. The disclosure is objected to because of the following informalities:

The use of trademarks, e.g., Henschel mixer [sic: HENSCHEL MIXER] at page 96, line 17, has been noted in this application. The trademarks should be capitalized wherever they appear and be accompanied by the generic terminology. This example is not exhaustive. Applicants should review the entire specification for compliance.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Appropriate correction is required.

Applicants' arguments filed on Feb. 14, 2005, have been fully considered but they are not persuasive.

Applicants assert that the amendment to the specification filed on Feb. 14, 2005, overcomes the objection.

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However, as discussed in the above objection, that amendment did not capitalize all the trademarks disclosed in the specification. Accordingly, the objection stands.

8. The examiner notes that the instant specification at page 21, lines 17-20, discloses that the sphericity E recited in instant claim 11 is calculated by dividing the perimeter of a circle (circumference) having the same projected area as an actual toner particle by the perimeter of the toner particle.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent claim 19 is indefinite in the phrase "an image-developer for developing the electrostatic latent image into a toner image" (emphasis added) for lack of antecedent basis in

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claim 19. Claim 19 does not recite that an apparatus component forms an electrostatic latent image.

11. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

12. Claims 1-6, 9-15, 20, and 21 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 2002/0081510 A1 (Sugiyama), as evidenced by applicants' admission in example 1 at pages 82-83 and in Table 1 of the instant specification (applicants' admission I).

Sugiyama discloses a developer comprising a magnetic carrier and a toner comprising toner particles. The toner particles comprise a polyester modified with urea bonds and a colorant. Paragraph 0107, lines 1-3, 7-10; and example 14 in paragraphs 0164-0171. The polyester modified with urea bonds meets the polyester resin containing nitrogen recited in instant claims 1 and 10.

Sugiyama does not disclose that its toner has the nitrogen concentration and the other properties recited in instant claims 1-6, 9-15, 20, and 21. However, the toner disclosed by Sugiyama appears to have been obtained by a method that is

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similar to the method used to obtain a toner having the properties recited in instant claims 1-6, 9-15, 20, and 21. See the instant specification, example 1 at pages 82-83 and in Table 1; and example 14 of Sugiyama. The toner disclosed by Sugiyama is obtained by: (1) forming a pigment/wax dispersion comprising a non-modified polyester; (2) blending additional non-modified polyester and a prepolymer resin with the pigment/wax dispersion; (3) dispersing the resultant blend to form a dispersion; (4) adding ketimine (1) to the dispersion to obtain dispersion 2; (5) adding dispersion 2 to an aqueous solution; (6) stirring the solution of step (5) while heating the solution to react the prepolymer with ketimine (1) to form a urea-modified polyester. The method of making disclosed by Sugiyama appears to meet the process limitations recited in instant claim 11. Thus, it is reasonable to presume that the toner disclosed by Sugiyama has the properties recited in instant claims 1-6, 9-15, 20, and 21. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

13. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2003/00118366 A1 (Nukada) combined with Sugiyama, as evidenced by applicants' admission I.

Nukada discloses an imaging apparatus that comprises a particular photoreceptor **10** (i.e., the electrostatic image carrier), a developing unit **13**, a transfer unit **14**, and a fixing roll unit **16**. Fig. 7, and paragraphs 0112-0113. Nukada further discloses a process cartridge comprising the particular photoreceptor and the developing unit described above.

Paragraph 0115, lines 1-7. Nukada discloses that the developing unit may be a unit in which development is conducted with a two-component developer that comprises a toner and carrier.

Paragraph 0110, lines 1-12. As seen in Fig. 7, the developing unit comprises a container to hold the developer or toner.

Nukada also discloses an image forming method using the apparatus described above, comprising the step of developing the electrostatic image formed on the particular photoreceptor with a developer. Paragraph 0098, and Fig. 7.

Nukada does not disclose the use of a developer as recited in instant claims 16-19.

Sugiyama discloses a developer comprising a toner and a carrier as described in paragraph 12, supra, which is incorporated herein by reference. The Sugiyama developer appears to meet the developer limitations recited in instant claims 16-19. According to Sugiyama, the toner exhibits "sufficient anti-hot offset, which permit low temperature

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fixing, which is free of toner filming problems and which has good fluidity and good transferability." Paragraph 0019.

It would have been obvious for a person having ordinary skill in the art to use the developer in example 14 of Sugiyama as the developer in the image forming apparatus, process cartridge, and image forming method disclosed by Nukada. That person would have had a reasonable expectation of successfully obtaining an image forming apparatus, a process cartridge, and an image forming method that provide toner images that can be readily fixed at a low fixing temperature.

14. Applicants' arguments filed on Feb. 14, 2005, regarding the rejections over Sugiyama in paragraphs 12 and 13 above have been fully considered but they are not persuasive.

Applicants assert that the toner recited in the instant claims can not be obtained by the process in example 14 in Sugiyama because that process does not comprise a maturing step.

Applicants' assertion is mere attorney argument. There is no objective evidence in the present record showing that the toner made in example 14 of Sugiyama does not have the nitrogen concentration and the other properties as recited in instant claims 1-6 and 9-21. Moreover, the instant specification at page 48, lines 10-15, states that "[i]n order to allow nitrogen

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concentration to be higher at the surface than the entire toner particle, it is preferable to allow the reaction to mature after the reactants are mixed and the solvent is removed in addition to adjusting the reaction time and temperature for elongation and/or cross-linking to the above-mentioned preferred ranges."

The instant specification does not disclose that the maturing step is a requirement for obtaining a toner with a higher nitrogen concentration at the surface of the toner, but merely discloses that the maturing step is a preferred step. For the reasons stated in the rejection in paragraph 12 above, it appears that the toner in example 14 of Sugiyama has the nitrogen concentration recited in the instant claims.

Applicants have not come forward with any objective evidence to the contrary. Accordingly, the rejections over Sugiyama stand.

15. US 2003/0138717 A1 (Yagi) was published on Jul 24, 2003, and has an effective filing date of Oct. 31, 2002. The inventive entity of Yagi differs from that of the instant specification. Thus, Yagi qualifies as prior art under 35 U.S.C. 102(a) and under 35 U.S.C. 102(e). Accordingly, Yagi qualifies also as prior art under 35 U.S.C. 103(c).

16. Claims 1-6, 9-18, and 20-22 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35

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U.S.C. 103(a) as obvious over Yagi; as evidenced by applicants' admissions at page 11, line 19, to page 12, line 2, page 12, lines 14-23, and page 48, lines 10-20, and in example 1 at pages 82-83 and in Tables 1 and 2, of the instant specification (applicants' admission II).

Claims 1-6, 9-18, and 20-22 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yagi, as evidenced by applicants' admission II.

Yagi discloses a two-component developer comprising a magnetic carrier and a toner comprising toner particles. The toner particles comprise a binder resin that comprises a urea-modified polyester resin and a colorant. See paragraphs 0220, 0239-0262, 0377, and 0378; example 1 in paragraphs 0263-0273; and Table 1 at page 23, example 1. The urea-modified polyester meets the polyester limitations recited in instant claims 1 and 10. The toner in example 1 of Yagi has a number average particle size (D_n) of 5.52 μm and a volume average particle size (D_v) of 6.03 μm , and a ratio of D_v/D_n of 1.09. The toner also has an average circularity of 0.951. See Table 1 at page 23, example 1. The D_v , the ratio D_v/D_n , and the average circularity are within the ranges recited in instant claims 14 and 12, respectively.

Yagi discloses a toner container comprising its toner. See Fig. 2 and paragraph 0236. Yagi also discloses an image forming apparatus that comprises a photoreceptor 1 (i.e., the electrostatic image carrier), a developing unit 4 that comprises the two-component developer, and a transfer belt 5. Yagi discloses an image forming method that comprises the step of developing an electrostatic latent image with the two-component developer. Fig. 1, and paragraphs 0228-0233.

Yagi does not disclose that its toner has the nitrogen concentration and the other properties, i.e., the hardness, the heat resistance, the cross-linking density, the nitrogen ratio, and the SF-1 and SF-2 values recited in instant claims 1-6, 9-18, and 20-22. However, the toner disclosed by Yagi appears to have been obtained by a method that is similar to the method used to obtain a toner having the properties recited in instant claims 1-6, 9-18, and 20-22. See the instant specification, example 1 at pages 82-83 and in Table 1; and example 1 of Yagi. The instant specification at page 48, lines 10-17, discloses that "[i]n order to allow nitrogen concentration to be higher at the surface than the entire toner particle, it is preferable to allow the reaction to mature after the reactants are mixed and the solvent is removed in addition to adjusting the reaction time and temperature for elongation and/or cross-linking to the

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above-mentioned preferred ranges. The temperature for maturing is 30°C to 80°C . . . and the time for maturing is 1 hour to 24 hours." The specification at page 48, lines 17-20, further discloses that the "nitrogen ratio of surface concentration (S) to overall concentration (V), S/V, can be changed by controlling the reaction conditions, solvent removing conditions, and the maturing conditions." The Yagi toner in example 1 is obtained by: (1) preparing a master batch comprising the carbon black and a polyester resin; (2) preparing a material solution comprising the carnauba wax and a low molecular weight polyester; (3) forming a pigment-wax dispersion by mixing the master batch of step (1), the material solution, and additional low molecular weight polyester; (4) mixing the pigment-wax dispersion of step (3), a modified polyester resin comprising isocyanate groups, which is capable of reacting with an active hydrogen to form the urea-modified polyester, and a ketimine compound, which has an active hydrogen and is identified as an elongation "anticatalyst," in an organic solvent; (5) dispersing the mixture of step (4) in an aqueous medium comprising resin particles; (6) reacting the ketimine compound with the modified polyester resin to form particles comprising a urea-modified polyester resin and removing the organic solvent from the dispersion of step (5); (7) aging the dispersion of step (6)

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after removal of the organic solvent at 45°C for 4 hours; and (8) washing the particles resulting from step (7) to form toner particles. Paragraphs 0141 and 0252-0273. The method of making disclosed by Yagi appears to meet the process limitations recited in instant claims 11 and 22. The Yagi aging step also meets the maturing temperature range and time range disclosed in the instant specification.

The specification at page 12, lines 14-23, further discloses that toners that have a surface that is harder than the center of the toner, a surface that is more heat resistant than the center of the toner, or a surface that has a higher density of cross-links than the center of the toner, include a toner that has a higher ratio of nitrogen in the surface than the ratio of the nitrogen in the entire toner. The specification further discloses that such toners have low-temperature fixing characteristics and good offset characteristics, charge stability, and cleanability. Instant specification, page 11, line 19, to page 12, line 2, and example 1 in Table 2. Yagi discloses that the toner in example 1 has low temperature fixability and offset resistance, and does not contaminate the image forming members used, such as the fixing device and the image bearing member. Paragraph 0032; and Table 3 at page 23, example 1, which reports that the toner

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in example 1 has a "lower fixing temperature" of 140°C and exhibits no occurrence of offset for temperatures below 220°C. Table 3 also reports that no toner filming was observed. Table 3 shows that the toner in example 1 has stable chargeability and good cleanability. These are the properties sought by applicants.

Accordingly, because the Yagi toner meets the compositional, particle size, and sphericity limitations recited in the instant claims; and because it appears to be made by a process that meets the process limitations recited in instant claims 11 and 22 and that appears to be similar to the method used to obtain a toner having the properties recited in instant claims 1-6, 9-18, and 20-22; and because it appears to have the toner properties sought by applicants, it is reasonable to presume that the Yagi toner in example 1 has the nitrogen concentration and the other properties recited in instant claims 1-6, 9-18, and 20-22. The burden is on applicants to prove otherwise. Fitzgerald, supra.

17. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nukada combined with Sugiyama.

Nukada discloses a process cartridge as described in paragraph 13 above, which is incorporated herein by reference.

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Nukada does not disclose the use of a developer as recited in instant claim 19.

Yagi teaches a developer comprising a toner and a carrier as described in paragraph 16, supra, which is incorporated herein by reference. The Yagi developer appears to meet the developer limitations recited in instant claim 19. Yagi further discloses that the toner provides sharp images for a long period of time. Paragraph 0033.

It would have been obvious for a person having ordinary skill in the art to use the developer in example 1 of Yagi as the developer in the process cartridge disclosed by Nukada. That person would have had a reasonable expectation of successfully obtaining a process cartridge that provides sharp toner images for a long period of time that can be readily fixed at a low fixing temperature and that have good offsetting properties.

18. US 2003/0104297 A1 (Matsuda) was published on Jun. 5, 2003, and has an effective filing date of May 31, 2002. The inventive entity of Matsuda differs from that of the instant specification. Thus, Matsuda qualifies as prior art under 35 U.S.C. 102(a) and under 35 U.S.C. 102(e). Accordingly, Matsuda qualifies also as prior art under 35 U.S.C. 103(c).

19. Claims 1-6, 9-18, and 20-22 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Matsuda, as evidenced by applicants' admissions at page 12, lines 14-23, and page 48, lines 10-20, and in example 1 at pages 82-83 and in Table 1, of the instant specification (applicants' admission III).

Claims 1-6, 9-18, and 20-22 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Matsuda, as evidenced by applicants' admission III.

Matsuda discloses a developer comprising a magnetic carrier and a toner comprising toner particles. The toner particles comprise a binder resin that comprises a urea-modified polyester resin and a colorant. See carrier A in paragraphs 0097-0098; and toner 12 in paragraphs 0123-0150 and 0164 and in Table 2 at page 10. The urea-modified polyester meets the polyester limitations recited in instant claims 1 and 10. The toner in example 12 of Matsuda has a number average particle size (D_n) of 5.52 μm and a weight average particle size (D_v) of 6.03 μm , and a ratio of D_v/D_n of 1.09. The toner also has an average sphericity of 0.91. See paragraph 0150 and Table 2, example 12. The ratio D_v/D_n was determined from the information provided in

paragraph 0150 of Matsuda. The average circularity is within the range recited in instant claim 12. The D_v and ratio D_v/D_n are within the numerical ranges recited in instant claim 14.

Matsuda does not disclose that the toner particles of example 12 have a volume average particle size as recited in instant claim 14. However, as discussed above the toner particles in example 12 of Matsuda have a weight-average particle size of 6.03 μm . The particle size value of 6.03 μm is within the numerical range of the volume average particle size recited in instant claim 14. Thus, based on the presumption that the toner particles have uniform density, it would be reasonable to conclude that the toner particles in example 12 of Matsuda have a volume average particle size of 6.03 μm and a ratio of volume average particle size to number average particle size of 1.09. The burden is on applicants to prove otherwise. Fitzgerald, supra.

Matsuda further discloses a toner container comprising its toner. See Fig. 2 and paragraph 0089. Matsuda also discloses an image forming apparatus that comprises a photoconductive drum 1 (i.e., the electrostatic image carrier), a developing unit 4 that comprises the two-component developer, and a transfer means 5. Matsuda discloses an image forming method that comprises the step of developing an electrostatic latent

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image with the two-component developer. Figs. 1 and 2, and paragraphs 0086-0088.

Matsuda does not disclose that its toner has the nitrogen concentration and the other properties, i.e., the hardness, the heat resistance, the cross-linking density, the nitrogen ratio, and the SF-1 and SF-2 values recited in instant claims 1-6, 9-18, and 20-22. However, the toner disclosed by Matsuda appears to have been obtained by a method that is similar to the method used to obtain a toner having the properties recited in instant claims 1-6, 9-18, and 20-22. See the instant specification, example 1 at pages 82-83 and in Table 1; and example 12 of Matsuda. The instant specification further teaches that for the nitrogen concentration to be higher at the surface than the entire toner particle, "it is preferable to allow the reaction to mature after the reactants are mixed and the solvent is removed in addition to adjusting the reaction time and temperature for elongation and/or cross-linking to the above-mentioned preferred ranges." The discussions of the disclosure at page 12, lines 14-23, and at page 48, lines 10-20, of the instant specification, in paragraph 16 above are incorporated herein by reference. The Matsuda toner in example 12 is obtained by: (1) preparing a master batch comprising the carbon black and a polyester resin; (2) preparing

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a material solution comprising the carnauba wax and a low molecular weight polyester; (3) forming a pigment-wax dispersion by mixing the master batch of step (1), the material solution, and additional low molecular weight polyester; (4) mixing the pigment-wax dispersion of step (3), a modified polyester resin comprising isocyanate groups, which is capable of reacting with an active hydrogen to form the urea-modified polyester, and a ketimine compound, which has an active hydrogen, in an organic solvent; (5) dispersing the mixture of step (4) in an aqueous medium comprising resin particles; (6) reacting the ketimine compound with the modified polyester resin to form particles comprising a urea-modified polyester resin and removing the organic solvent from the dispersion of step (5); (7) heating the dispersion of step (6) after removal of the organic solvent at 45°C for 4 hours; and (8) washing the particles resulting from step (7) to form toner particles. Example 12 of Matsuda. The method of making disclosed by Matsuda appears to meet the process limitations recited in instant claims 11 and 22. The Matsuda heating step (7) also meets the maturing temperature range and time range disclosed in the instant specification.

Accordingly, because the Matsuda toner meets the compositional, particle size, and sphericity limitations recited in the instant claims and appears to be made by a process that

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meets the process limitations recited in instant claims 11 and 22; and because the Matsuda process appears to be similar to the method used to obtain a toner having the properties recited in instant claims 1-6, 9-18, and 20-22, it is reasonable to presume that the Matsuda toner in example 12 has the nitrogen concentration and the other properties recited in instant claims 1-6, 9-18, and 20-22. The burden is on applicants to prove otherwise. Fitzgerald, supra.

20. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nukada combined with Matsuda, as evidenced by applicants' admissions III.

Nukada discloses a process cartridge as described in paragraph 13 above, which is incorporated herein by reference.

Nukada does not disclose the use of a developer as recited in instant claim 19.

Matsuda teaches a developer comprising a toner and a carrier as described in paragraph 19, supra, which is incorporated herein by reference. The Matsuda developer appears to meet the developer limitations recited in instant claim 19. Matsuda further discloses that the toner is resistant to heat stress and mechanical stress and produces stable images for a

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long period of time, e.g., 300,000 copies. Paragraphs 0010 and 0152, and Table 3-2 at page 11, example 12.

It would have been obvious for a person having ordinary skill in the art to use the developer in example 12 of Matsuda as the developer in the process cartridge disclosed by Nukada. That person would have had a reasonable expectation of successfully obtaining a process cartridge that provides stable toner images for a long period of time.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The central fax phone number is (271) 273-8300.

Any inquiry of papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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